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THE CAUSES OF ELIMINATION IN HIGH SCHOOL

BY

FRANK JAMES DUFRAIN

A. B. University of Illinois

1916

THESIS

Submitted in Partial Fulfillment of the Requirements for the

Degree of

MASTER OF ARTS

IN EDUCATION

IN

THE GRADUATE SCHOOL

OF THE

UNIVERSITY OF ILLINOIS

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I HEREBY RECOMMEND THAT THE THESIS PREPARED UNDER MY SUPERVISION BY Frank James Du Frain

ENTITLED The Causes of Elimination in High School

BE ACCEPTED AS FULFILLING THIS PART OF THE REQUIREMENTS FOR THE DEGREE OF Master of Arts in Education

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THE CAUSES OF ELIMINATION IN HIGH SCHOOL

I Introduction

A. The Importance of the Subject

The problem of elimination of pupils from high school will undoubtedly always be an important one. At least so long as some schools have a high percentage of elimination and others a low one, the subject will be studied. The statistical report of accredited high schools for the school year of 1917-1918,[1] made by the Commissioner of Education, shows that the enrollment in the tenth grade is one third less than the enrollment of the ninth grade; that the eleventh grade has less than one half of the number in the ninth grade; and that the twelfth grade has about two fifths as many enrolled as the ninth grade. This record is for the best secondary schools in the United States, and of course the record of the partly accredited and non-accredited high schools is worse. Surely this great elimination is a challenge to the administrators of the public high schools of the United States, where over one hundred millions of dollars are spent annually for public secondary education. It is doubtful whether any private business could exist if it were effective only to the same degree as the public high school. At any rate if such a startling loss as occurs in the efficiency of second-

[1]Bonner, H. R., Statistics of Public High Schools, 1917-18, Bulletin No. 19, 1920, United States Bureau of Education.

ary education, shown by the amount of elimination, were found in business interests and were reported to the officials in charge of those interests, an investigation into the causes for the loss of efficiency would result. Surely the effectiveness of our high schools is of sufficient importance to merit a like investigation.

B. Other Recent Studies Relating to this Subject

Recently there have been two very important investigations of elimination in high schools, one by Joseph K. Van Denburg[1] and the other by Francis P. O'Brien.[2] Since Van Denburg's study was the first thorough effort to study secondary school elimination on a large scale and since it paved the way for later investigations, the significant facts of his contribution to the problem are given here in considerable detail.

1. Van Denburg's Study of the Causes of Elimination.

In February, 1906, Joseph K. Van Denburg had 1100 pupils entering high schools in New York City fill out the questionnaire which follows:

1. _____
Last name. First name. Initial. School. Year of Birth. Month. Day.

2. _____
Number. Street. Borough.

3. _____
From Grade School. Number. Borough. Father's Business. Father's Nationality.

[1] Van Denburg, Joseph K., Causes of the Elimination of Students of Public Secondary Schools of New York City.

[2] O'Brien, Francis P., The High School Failures.

4. What do you intend doing for a living?

(1) Are four years in high school necessary?

(2) Do you intend to stay four years?

5. Older Brothers and Sisters. Age. What are they doing?

6.

7.

8.

9. Height. Weight. What serious illness have you had? When?

10. Do you have severe headaches? How frequently? Do you wear glasses?

Tabulations were made of the answers to the questionnaires and compared with the facts later, i. e. whether the pupils were eliminated or graduated from high school. From this data the following conclusions were drawn by Van Denburg:

1. Nearly one third of the group was eliminated at the end of the first term; nearly one half was eliminated at the end of the first year.
2. Approximately 57 per cent of the boys and 63 per cent of the girls who graduated from the eighth grade entered high school.
3. Fourteen and one-half years is the age at which the greatest number of pupils enter high school.
4. The most successful elementary pupils comprise about one third of the entering high school classes.
5. Hebrews excell all other races in their appreciation and use of New York City high schools.
6. Children whose parents are city and government employees use the

high schools most, those of semi-professional parents next.

7. Of the boys 36 per cent chose some form of engineering as a profession, 17 per cent business, and 11 per cent law. Teaching as a profession was chosen by more girls than all other professions combined.

8. Pupils chose 40 occupations while their brothers and sisters were in 160 occupations.

9. Pupils should not be kept in school beyond the point where the high school work and life is surely of benefit to them. Short courses should be offered to those pupils who will surely drop out.

10. One fifth of the group entering high school had decided not to graduate when they entered, while one fourth more had no set determination to complete the course.

11. Pupils who are determined to stay in school usually elect Latin or German.

12. The average rental of the 420 homes which were visited was $15, while for graduates it was $20. Judging from the rentals, the high school curriculum is not meeting the needs of most of its pupils, for very few can afford to complete professional courses, and the high school training is largely preparation for college.

13. In four years three fourths of the pupils are eliminated. Of the remaining one fourth, about one half graduate on time and the other half remain as retarded pupils.

14. Pupils entering high school before they are fourteen years of age do better than those entering later.

15. The older pupils leave school early, and in many cases they would stay to complete short courses if some were offered.

16. A pupil with some definite trade or occupation in mind remains in school longer than the others.

17. The economic status is only a slight factor in the stay in school.

18. Thirteen is the best age at which to enter high school so far as staying qualities are concerned.

19. Two thirds of the boys who were ranked as better than average in ability were not in the graduating group.

20. Pupils in the upper one third of the group so far as ability is concerned are more likely to graduate than those in the lower two thirds of the group.

21. Pupils who find no difficulty in their school work leave in large numbers.

22. If all boys who failed to get a mark of at least 50 per cent for their first semester's work were at once expelled, the number of graduates would not be lessened, for these boys are eliminated anyhow.

23. At least 75 per cent of the pupils who enter have the native ability to graduate if they choose to apply themselves.

24. A pupil who is the youngest child has a better chance than the older children.

Briefly, according to Van Denburg, early elimination is favored by:

1. Late entering age.
2. Younger brothers or sisters.
3. A childhood free from serious illness.
4. Foreign-born parentage of Irish, Austro-Hungarian, Scotch, or Italian stock.
5. Choice of business for boys and stenography for girls.
6. A disbelief in the value of a high school course.

7. An uncertainty as to probable length of stay, or a determination to leave early.

On the other hand, elimination does not seem to be greatly increased by eye strain or frequent headaches, nor is there evidence that poverty causes early elimination.

2. O'Brien's Study of High School Failures.

Francis P. O'Brien made a study of the failures and elimination of 6,141 pupils belonging to eight different high schools in New York and New Jersey. His data is taken entirely from the high school records, and in order that he might get the complete records for all pupils for their full time in high school, O'Brien studied the records for a period of six years where necessary.

Some of the conclusions reached by O'Brien which relate to the subject of this thesis are:

1. Of the graduating pupils, 58.1 per cent fail one or more times.
2. Of the non-failing non-graduates, 78 per cent are lost from school by the end of their first year.
3. The percentage of pupils failing increases for the first four semesters, and lowers but little for two more semesters. One third to one half of the pupils fail in each semester to the seventh.
4. Thirty-four per cent of the failures occur after the second year, when 52.2 per cent of the pupils have been lost and others are leaving continuously.
5. Mathematics, Latin, and English head the list in the percentages of total failures, and together provide nearly 60 per cent of the

failures.

6. For the pupils dropping out without failure, the median age is at 16, with the mode at 15. For the failing drop-outs both the median and the mode are at the age of 17. Nearly 50 per cent of the non-failing drop-outs occur under the age of 16, but not 20 per cent of the failing non-graduates are gone by that age. The percentage of drop-outs is higher for older pupils.

7. The first year's record has real prognostic value for pupils persisting more than three semesters, but 57 per cent of those leaving earlier have no failures. This includes nearly 60 per cent of all the non-failing pupils, but less than 32 per cent of the failing ones have gone that early.

8. Prediction of failure by subjects is relatively easy and sure, and the later years seem more productive of this result....Fifty-six per cent of the failures for the graduates occur after the second year. The longer stay in school actually begets an increase in failures. The boys and girls are similarly affected by these factors of prognosis.

9. The percentages of the failing pupils who graduate and of the non-failing pupils who graduate are identical, 31.5 per cent.

10. The non-failing non-graduates do not persist long in school, compared with the failing non-graduates. The short persistence partly accounts for their avoidance of failure.

11. For 11.5 per cent of the non-graduates who fail in 50 per cent or more of their work, failure is probably a chief cause of dropping out.

12. Failure is probably not a prime cause of dropping out for most of the non-graduates, as 80 per cent have only 5 failures or fewer.

13. The number of drop-outs does not tend to increase as the number of failures per pupil increases.
14. The pupils who lack native ability sufficient for the work are not a large number.
15. The early elimination of pupils, the number that fail, and the notable cases of non-success in school are evidence of something wrong with the kind of education given.
16. Properly selected student advisers, appointed early, may transform the school for the pupil, save the pupil for the school, and save the pupil's work from failures.

The studies made by Van Denburg and O'Brien as briefly outlined here throw much light on the problem of elimination. However, the group studied by Van Denburg was so large that he could not know the individuals. Therefore the answers to the questionnaires had to be taken at face value, and in many cases no doubt more reliable data could have been secured had the answers to the questions been checked or supplemented by a knowledge of the personality of the individual, his home conditions, his elementary school record, etc. Van Denburg realized this objection and recommended that studies be made of smaller groups where the investigator would have the opportunity of knowing more about the individuals.

The same criticism, i. e., that the group studied was too large and that there was no supplementary data concerning the home environment, the personality of the individuals, and the history of the pupils after leaving school, may be made of O'Brien's study also. However, O'Brien purposely avoided the disadvantages of the questionnaire by obtaining all his data from the school records.

It is, therefore, the purpose of this study, in a small way to attempt to combine the good qualities of the work done by Van Denburg and O'Brien, with the advantage of a personal knowledge of each individual. The group studied is therefore limited to 367 pupils comprising the class of entering freshmen at Rockford High School, Rockford, Illinois, in September, 1916. The writer had supervision over these pupils during their entire stay in school, and in many cases he kept in touch with them after they were eliminated or were graduated. This personal knowledge of the individuals studied, combined with information taken from the school records and from questionnaires sent to the pupils should give data for a comprehensive and accurate study of the group.

It is the particular task of this study to determine as far as possible the reasons why 201 pupils from this class of 367 freshmen left school before graduation. From the school records the objective factors are investigated; and from the replies of the pupils themselves, some of the human factors involved in the process of elimination are seen. Naturally some factors are hard to measure, but there are many which are easily measured. However, the whole problem is complex in that there may be many factors causing the elimination of a single individual.

II Sources of the Data

The data used in this study were taken from the following sources:

A. School records of 367 pupils who entered Rockford High School as freshmen (ninth graders) at Rockford, Illinois, in September, 1916.

B. Returned questionnaires which were sent in the summer of 1921 to this group of 367 pupils.

C. Results of general intelligence tests and school records of 444 beginning freshmen in Rockford High School in September, 1919.

III Reliability of the Data

As the writer knew personally the group of pupils studied, and as he had planned to make this study at the time they entered high school, he was able to secure the data necessary for an investigation of this kind, and the information obtained would therefore seem to be more accurate than that usually taken from school records and questionnaires.

The questionnaires were distributed after the writer had left Rockford High School and also after the pupils had left. There should therefore be a minimum of influences to color the replies of this group.

Inquiries were sent to everygrade school principal to ascertain from them which reason they thought operative in the case of each eliminated pupil coming from their schools. Since the principals usually knew the family and home conditions very well, the information received from them was very reliable, and it was used to check against the high school records and the questionnaires.

IV A Study of the Data

A. A Study of the High School Office Records

The following table shows the general distribution of the

pupils by achievement, giving the number and percentage of boys and girls in the group of 367 pupils studied, who graduated on time, graduated late, were still in school in June, 1921, or were eliminated. Four pupils who graduated in less than eight semesters are included with those who graduated on time.

Table I

The Distribution Over a Period of Five Years of the Pupils Entering as Freshmen in Rockford High School in September, 1916

	Entering Sept. '16		Graduating On Time		Graduating Late		Total Graduating		Still in School June '21		Eliminated	
	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent
Boys	178	48.5	51	28.7	12	6.7	63	35.4	8	4.5	107	60.1
Girls	189	51.5	83	43.9	11	5.8	94	49.7	1	.5	94	49.7
Total	367	100.0	134	36.5	23	6.3	157	42.8	9	2.5	201	54.8

There were 178 boys and 189 girls who entered as freshmen. Of that number 107 boys or 60.1 per cent, and 94 girls or 49.7 per cent, were eliminated. Only 28.7 per cent of the boys and 43.9 per cent of the girls graduated in eight semesters.

The following table shows the distribution of eliminated pupils according to their length of stay in school.

Table II

The Number of Semesters of Attendance Completed by Eliminated Pupils

		No. of Semesters Completed								
	Number	1	2	3	4	5	6	7	8	9
Boys	107	97	76	48	35	17	12	4	3	0
Girls	94	85	62	44	35	21	15	6	0	0
Total	201	182	138	92	70	38	27	10	3	0
Total Loss from Preceding Semester		19	44	46	22	32	11	17	7	3
Per cent of Loss from Preceding Semester		9.4	21.8	22.9	10.9	15.9	5.5	8.4	3.4	1.5

Table II reads: Of the 107 freshman boys 97 completed the first semester, 76 the second, 48 the third, 45 the fourth, 17 the fifth, 12 the sixth, 4 the seventh, 3 the eighth, and none completed the ninth.

It is interesting to note that the great loss of pupils occurred before the fifth semester and that less than half of the eliminated pupils completed three semesters of work. There is no marked difference in elimination by semesters between the sexes, although a greater percentage of girls dropped out before the second semester than boys. The rate of elimination was about the same as that found by O'Brien[1] except that the pupils in this study were eliminated a little faster. The writer found that 31.3 per cent of the pupils eliminated were lost by the end of the first semester as compared with 33.7 per cent in O'Brien's study. A comparison by semesters follows:

[1] O'Brien, Francis P., The High School Failures, p. 13.

Comparison of Cumulative Percentages
with O'Brien's Study

	Lost by End of Semester							
	1	2	3	4	5	6	7	8
This Study	31.3	54.2	65.1	81.1	86.5	95.0	98.5	
O'Brien's Study	33.7	53.4	62.6	76.2	81.9	90.7	94.	98.6

Table III

The Relationship Between the Number of Pupils Who Graduated from the Different Elementary Schools at Rockford, Illinois, in June, 1916 and the Number and Percentage Who Entered High School in September, 1916.

	No. Graduated from Elementary Schools June, 1916			No. Who Entered High School September, '16			Per Cent Who Entered High School September, '16		
School	B	G	T	B	G	T	B	G	T
Blake	3	9	12	2	7	9	67	78	75
Brown	5	9	14	4	8	12	80	89	86
Church	13	15	28	9	11	20	69	73	71
Ellis	16	9	25	13	8	21	81	89	84
Freeman	13	14	27	11	8	19	85	57	70
Garrison	15	14	29	14	12	26	93	86	90
Hall	13	9	22	13	8	21	100	89	95
Jackson	15	19	34	11	15	26	73	79	76
Kent	5	4	9	3	2	5	60	50	56
Kiswaukee	7	8	15	6	6	12	86	75	80
Lincoln[1]	13	12	25	14	14	28			
Montague	9	6	15	6	4	10	67	67	67
Nelson	6	13	19	5	9	14	83	69	74
Peterson	9	7	16	6	4	10	67	57	63
Turner	8	11	19	6	8	14	75	73	74
Walker	11	10	21	10	9	19	90	90	90
Wight	4	14	18	3	8	11	75	57	61
Total	165	183	348	136	141	277	82	77	80

[1]In this case several graduates from previous classes entered high school in September, 1916, making the number who entered high school in September greater than the number who graduated from Lincoln School in June.

Table III reads: 3 boys and 9 girls graduated from the Blake Elementary School in June, 1916. Of that number 2 boys, 67 per cent, and 7 girls, 78 per cent, entered high school in the following September.

The process of elimination begins below the high school, as shown by the fact that most of the elementary schools located in the wealthier parts of the city have relatively higher percentages of their graduates going to high school. This is not without exception, for the Kishwaukee and Nelson schools, for instance, are located in districts where the percentage of foreign-born parents is high, while some other schools located in better environments, do not rank as high. It is possible for an elementary school with a strong principal, a well organized faculty, and a fine school morale, to create and perpetuate an interest in their graduates to go to high school.

Table IV

The Distribution of Pupils According to Their Elementary Schools and the Number and Percentage from Each School Who Graduated or Who Were Eliminated.

Elementary School	No. Pupils Who Entered High School			No. Pupils Graduated or in School June, 1921			Per Cent Graduated or in School June, 1921			Number Eliminated			Per cent Eliminated		
	B	G	T	B	G	T	B	G	T	B	G	T	B	G	T
Blake	2	7	9	0	4	4	0	57	44	2	3	5	100	43	55
Brown	4	8	12	3	3	6	75	38	50	1	5	6	25	62	50
Church	9	11	20	4	7	11	44	64	55	5	4	9	56	46	45
Ellis	13	8	21	3	2	5	23	25	24	10	6	16	77	75	76
Freeman	11	8	19	3	4	7	27	50	37	8	4	12	73	50	63
Garrison	14	12	26	8	8	16	57	67	62	6	4	10	43	33	38
Hall	13	8	21	6	6	12	46	75	57	7	2	9	54	25	43
Jackson	11	15	26	4	7	11	36	47	42	7	8	15	63	53	58
Kent	3	2	5	1	0	1	33	00	20	2	2	4	67	100	80
Kishwaukee	6	6	12	5	3	8	83	50	67	1	3	4	17	50	33
Lincoln	14	14	28	11	8	19	78	57	68	3	6	9	21	43	32
Montague	6	4	10	0	1	1	00	25	10	6	3	9	100	75	90
Nelson	5	9	14	1	4	5	20	44	36	4	5	9	80	55	64
Peterson	6	4	10	2	0	2	33	00	20	4	4	8	67	100	80
Turner	6	8	14	1	2	3	17	25	21	5	6	11	83	75	79
Walker	10	9	19	5	6	11	50	67	58	5	3	8	50	33	42
Wight Co.	3	8	11	1	2	3	33	25	27	2	6	8	67	75	73
Winnebago	15	19	34	6	13	19	40	68	56	9	6	15	60	32	44
Ogle Co.	2	4	6	0	2	2	00	50	33	2	2	4	100	50	67
Others	25	25	50	7	13	20	28	52	40	18	12	30	72	48	60
Totals	178	189	367	71	95	166	39	50	45	107	94	201	61	50	55

Table IV reads: Of the 2 boys and 7 girls who graduated from the Blake Elementary School in June, 1916, none of the boys and 4 of the girls or 57 per cent graduated from high school or were still in school in June, 1921.

A study of the percentages of graduates from the high school who came from the different elementary schools, shows that those elementary schools having 50 per cent or more of their pupils who entered high school remain to graduate, are located in the more desirable residential parts of the city, but it does not follow that the schools in the most undesirable portions of the city show the lowest percentages of graduation.

It is interesting to note that the pupils who entered from the country schools rank well compared with those from the city schools. No doubt the law of the "survival of the fittest" may operate more freely with regard to country pupils than with regard to city pupils, where the attendance laws are well enforced.

Table V

The Relation Between the Elementary Schools of Rockford, Illinois When Ranked According to the Percentage of Their Graduates Who Entered High School in One Year, and When Ranked According to the Percentage of These Pupils Who Were Eliminated From High School Before Graduation.

Percentage of 8th Grade Graduates June, 1916 Who Entered H. S. Sept., 1916		Rank	Percentage of Pupils Entering H. S. Sept., 1916 Who Were Eliminated		Rank Difference
School			School		
Garrison	96	1	Lincoln	25	4
Lincoln	96	2	Kiswaukee	33	1
Hall	95	3	Blake	40	3
Walker	90	4	Walker	42	0
Turner	89	5	Garrison	43	11
Ellis	88	6	Hall	43	8
Blake	83	7	Church	45	4
Kishwaukee	80	8	Brown	45	6
Brown	79	9	Jackson	56	1
Nelson	74	10	Freeman	63	2
Jackson	73	11	Peterson	70	2
Church	71	12	Nelson	71	5
Freeman	70	13	Wight	73	3
Montague	67	14	Ellis	77	3
Peterson	63	15	Kent	80	4
Wight	61	16	Turner	82	3
Kent	56	17	Montague	90	2
			Total		62

From the above table, it would seem that there is some correlation between the ability of an elementary school to send a large percentage of its graduates to high school and the ability to have a large percentage of these remain to graduate. Stated in another way, the elementary school sending the larger percentage of its graduates to high school will have the smaller percentage of elimination from high school in that group.

Some of the elementary school principals and teachers watched the high school work of their pupils very closely. If pupils from their school were failing or discouraged these teachers urged

them to continue and no doubt this constant interest explains the high rank in this study of some schools otherwise less favored.

Table VI

The Relationship Between Nationality of Father and Elimination from High School

Nationality of Father	Number Entered			Number Eliminated			Per Cent Eliminated		
	B	G	T	B	G	T	B	G	T
American	63	70	133	39	25	64	62	35	47
Swedish	43	57	100	28	34	62	65	60	62
English	14	14	28	6	9	15	43	64	54
German	15	11	26	9	6	15	60	55	58
Scotch	13	11	24	6	6	12	46	55	50
Irish	7	7	14	5	4	9	71	57	64
Danish	1	3	4	1	2	3			
Norwegian	2	2	4	1	1	2			
French	3	0	3	3	0	3			
African	0	2	2	0	1	1			
Dutch	1	0	1	1	0	1			
Jewish	2	0	2	0	0	0			
Canadian	0	2	2	0	2	2			
Italian	0	1	1	0	1	1			
Lithuanian	0	1	1	0	1	1			
Polish	1	0	1	1	0	1			
Spanish	0	1	1	0	0	0			
Swiss	1	0	1	0	0	0			
Not Recorded	12	7	19	7	2	9	58	29	47
Totals	178	189	367	107	94	201	60	50	55

In percentages at least, the pupils of American fathers showed a better record, so far as elimination from high school is concerned, than those pupils of Swedish, English, German, Scotch, or Irish fathers, but the difference is not great enough to boast of. Van Denburg[1] found that the percentage of elimination was fairly evenly divided among the different races represented, with the Irish having the highest percentage of elimination (75 per cent) and the Germans next. The Americans ranked second as compared with first in this study. Van Denburg found no noticeable difference in the

[1]Van Denburg, Joseph K., Causes of the Elimination of Students of Public Secondary Schools of New York City

sexes, while in this study there is rather a marked difference in the cases of the American and the English fathers.

Table VII

The Age at Entrance of 367 Pupils Who Entered Rockford High School as Freshmen, September, 1916

Yrs.	11			12			13			14			15			16			17			18		
Mos.	B	G	T	B	G	T	B	G	T	B	G	T	B	G	T	B	G	T	B	G	T	B	G	T
0							3	0	3	7	13	20	5	9	14	4	1	5	0	1	1	1	0	1
1				1	0	1	2	1	3	6	4	10	2	6	8	3	0	3						
2							1	0	1	7	6	13	4	8	12	1	1	2	0	1	1			
3							1	2	3	9	8	17	5	2	7	4	0	4						
4							0	5	5	5	9	14	2	2	4							1	0	1
5							3	1	4	6	8	14	3	3	6	3	2	5				0	1	1
6							1	7	8	5	13	18	2	1	3	0	1	1						
7							3	4	7	8	6	14	2	4	6									
8				0	2	2	1	7	8	5	6	11	3	6	9	5	0	5	1	0	1			
9				2	0	2	4	6	10	7	3	10	1	2	1	1	0	1						
10				1	1	2	7	10	17	3	3	6	3	1	4									
11	1	0	1	0	2	2	9	7	16	5	5	10	6	0	6	1	0	1						
12																						2	0	2
Totals	1	0	1	4	5	9	35	50	85	73	84	157	38	42	80	22	5	27	1	2	3	4	1	5

Median for Boys, 14 years, 7 months
Median for Girls, 14 years, 4 months
Median for all, 14 years, 6 months

The median age at entrance in Van Denburg's study[1] was 14.5; in O'Brien's study,[2] 14.8; in King's report[3] of 1033 pupils entering Iowa City (Iowa) High School, 14.9, as compared with 14.5 in this study.

[1] Van Denburg, Joseph K., Causes of the Elimination of Students of Public Secondary Schools of New York City.
[2] O'Brien, Francis P., The High School Failures.
[3] King, Irving, The High School Age.

Table VIII

The Age at Entrance of 201 Pupils
Who Were Eliminated

Years	12			13			14			15			16			17			18		
Months	B	G	T	B	G	T	B	G	T	B	G	T	B	G	T	B	G	T	B	G	T
0				1	0	1	2	6	8	4	7	11	3	1	4	0	1	1	1	0	1
1	1	0	1	1	0	1	2	1	3	1	3	4	2	0	2						
2							4	3	7	3	6	9	1	1	2	0	1	1			
3				1	0	1	5	5	10	3	2	5	4	0	4						
4				0	2	2	1	5	6	2	2	4							1	0	1
5				1	0	1	4	2	6	3	2	5	3	2	5				0	1	1
6							1	5	6	2	1	3	0	1	1						
7				2	1	3	6	3	9	1	3	4									
8				0	1	1	3	3	6	3	5	8	2	0	2	1	0	1			
9				2	5	7	5	0	5				1	0	1						
10	1	0	1	4	4	8	3	1	4	2	0	2									
11				3	5	8	3	3	6	6	0	6	1	0	1						
12																			1	0	1
Totals	2	0	2	15	18	33	39	37	76	30	31	61	17	5	22	1	2	3	3	1	4

Median for Boys, 14 years, 11 months
Median for Girls, 14 years, 7 months
Median for all, 14 years, 9 months

When Table VIII is compared with Table VII, it is clear that age at entrance is a factor in elimination. Those pupils who enter later are more readily eliminated than those who enter earlier. Two reasons may be given for this: either those pupils who enter later are less able to do high school work effectively or else they become old enough to go to work sooner.

O'Brien[1] found that the percentage of pupils graduating who entered at the age of 12 is approximately four times that of the pupils who entered at the age of 16; likewise the percentage of graduates entering at 13 and 14 years of age is more than four times that of the pupils entering at 17 and 18 years respectively; while

[1] O'Brien, Francis P., The High School Failures, p. 34.

the percentage of graduates entering at 15 years is three times that of the graduates entering at 19 years.

Table IX

The Age at Leaving of 201 Pupils
Who Were Eliminated

Years	14			15			16			17			18			19			20		
Months	B	G	T	B	G	T	B	G	T	B	G	T	B	G	T	B	G	T	B	G	T
0	3	1	4				8	11	19	2	3	5	2	2	4	0	1	1			
1	1	2	3	3	1	4	3	4	7	1	2	3	2	0	2						
2				1	1	2	2	4	6	5	1	6	0	1	1	0	1	1	1	0	1
3				3	5	8	3	1	4	3	2	5									
4	1	1	2	4	2	6	1	1	2	2	0	2									
5	1	0	1	3	2	5	0	3	3	3	2	5	0	1	1						
6	0	2	2	4	1	5	2	0	2												
7	2	2	4	2	2	4				1	3	4	1	0	1	1	0	1			
8				3	2	5	4	1	5	2	1	3							1	0	1
9				3	4	7	3	3	6	1	0	1									
10	0	3	3	2	4	6	1	1	2	4	3	7	0	1	1	1	0	1			
11	2	0	2	4	2	6	1	3	4	1	0	1	1	1	2				2	0	2
Totals	10	11	21	32	26	58	28	32	60	25	17	42	6	6	12	2	2	4	4	0	4

Median for Boys, 16 years, 2 months
Median for Girls, 16 years, 0 months
Median for all, 16 years, 1 month

The compulsory school attendance law in Illinois required attendance in school until the age of 16, with the exception that pupils over 14 years of age whose help was needed at home, might attend part-time school eight hours per week provided they were able to get working permits from the superintendent of schools. The effect of this law is evidently shown in the above table.

O'Brien[1] found that 16 years was the most popular time for pupils to drop out, as 24.2 per cent were eliminated then as compared with 20.7 per cent at 15 years and 21 per cent at 17 years.

1O'Brien, Francis P., The High School Failures, p. 26.

Since 16 years of age in O'Brien's study means $15\frac{1}{2}$ to $16\frac{1}{2}$, under that classification this study has 71 or 35 per cent dropping out at that age, and 19 per cent and 21 per cent at the ages of 15 and 17 respectively.

Table X

Occupation of Parents of 367 Freshmen
Who Entered Rockford High School in September, 1916

MANUFACTURE AND TRADE	No.
Baker	1
Finisher	5
Foreman	15
Grocer	8
Manager	17
Mechanic	17
Merchant	17
Tool Maker	4
Total	84
ARTISAN	
Boiler inspector	1
Boiler maker	1
Cabinet maker	10
Carpenter	12
Contractor	4
Electrician	1
Machinist	18
Mason	2
Molder	8
Painter	4
Stationary engineer	2
Tailor	3
Total	66
AGRICULTURE	
Farmer	53

PROFESSIONAL	No.
Architect	2
Dentist	3
Lawyer	3
Minister	7
Osteopath	1
Physician	2
Professor	1
Total	19
MIDDLEMAN	
Abstracts	1
Insurance	6
Real estate	3
Salesman	7
Total	17
PERSONAL SERVICE	
Barber	4
Dressmaker	2
Housekeeper	4
Janitor	1
Night watchman	4
Total	15
TRANSPORTATION	
Chauffeur	1
Conductor	1
Driver	7
Engineer	2
Motorman	3
Total	14

FED. OR CITY EMPLOYEE	No.
Bd. of Review Clerk	1
Constable	1
County Clerk	1
Election Bd. Clerk	1
Fireman	3
Mail Carrier	1
Mail Clerk	1
Officer (U. S. A.)	1
Sailor	1
Total	11
CLERICAL ASSISTANTS	
Bookkeeper	1
Clerk	4
Shipping clerk	2
Total	7
SEMI-PROFESSIONAL	
Draftsman	1
Druggist	1
Teacher	1
Watchmaker	2
Total	5
UNCLASSIFIED	
Laborer	27
NOT RECORDED	49

The above table shows the distribution of parents of the whole group of pupils according to occupation, while the following table shows the number of pupils and percentage of elimination in each occupational group of parents.

Table XI

The Relationship Between Occupation of Parent and Elimination from High School

Occupation of Parent	Number Entered			Number Eliminated			Per Cent Eliminated		
	B	G	T	B	G	T	B	G	T
Semi-professional	3	2	5	0	1	1	0	50	20
Professional	8	11	19	3	4	7	38	36	36
Fed. & City Employee	5	6	11	2	2	4	40	33	36
Agriculture	23	30	53	15	9	24	65	30	45
Middleman	8	9	17	5	3	8	63	33	47
Mfg. and trade	43	41	84	22	19	41	51	46	49
Personal service	9	6	15	6	2	8	67	33	53
Clerical Assistants	3	4	7	1	3	4	33	75	57
Artisan	34	32	66	24	17	41	71	53	62
Unclassified	8	19	27	5	13	18	63	68	67
Transportation	7	7	14	6	5	11	86	71	79
Not recorded	27	22	49	18	16	34	67	72	69
Totals	178	189	367	107	94	201	61	50	55

Elimination is evidently affected by the occupation of the parent. The better trained the parent the more likely that the child will graduate from high school. As an example, according to Table XI, the child of a motorman would by the law of averages be twice as likely to be eliminated from high school before graduation as the child of a dentist. These findings compare favorably with those of Van Denburg,[1] but he has no agricultural group in his study. He found that federal and city employees appreciated education more than those in other occupations. Children of federal and city employees also rank high in this study.

Some one has said that parents always see that their children receive as much as or more than the education that they

[1] Van Denburg, Joseph K., Causes of the Elimination of Students in Public Secondary Schools of New York City.

themselves received. At any rate the parents who appreciate most the value of an education are most likely to keep their children in school for a long period.

Unfortunately for this study, intelligence tests were not given to the class of pupils who furnish the data for this study. However, the Chicago Group Intelligence Tests were given to the freshman class of 444 pupils who entered three years later, in September, 1919, and the writer is using the results of these tests and the amount of elimination shown to have occurred by June, 1921, a period of two years, as the basis for the comparison between general intelligence and elimination.

Table XII

The Relationship Between General Intelligence and Elimination

General Intelligence as Shown by Chicago Group Intelligence Tests	Number of Pupils Who Were Eliminated Before End of Fourth Semester[1]	Per Cent of Each Fourth Who Were Eliminated
Upper Fourth	26	23.4
Third Quartile 39.3		
Third Fourth	25	22.5
Median 32.8		
Second Fourth	24	21.6
First Quartile 26.5		
Lower Fourth	46	41.4

[1]Exclusive of the 17 who died or moved away.

Of the 111 pupils in the upper fourth of the class, as

determined by these tests, 26 pupils or 23.4 per cent were eliminated, while of the 111 pupils in the lower fourth, 46 pupils or 41.4 per cent were eliminated. Of the entire class 323 finished the first four semesters.

Table XIII

Reasons for Leaving High School
Shown by Office Records

Reason	Number of Pupils		
	Boys	Girls	Total
Wished to earn money immediately	29	17	46
Failures in H. S. subjects	19	11	30
Dislike for school	11	10	21
Work to support family	13	7	20
Poor health	3	10	13
Needed to help at home	4	7	11
Wanted a short business course	3	5	8
Parents not interested in education	2	3	5
Absent too much	3	2	5
Illness at home	1	2	3
Course too long	1	2	3
Wanted to learn a trade	2	0	2
H. S. subjects not worth while	1	0	1
To get married	0	1	1
To enter techanical schools	1	0	1
Enlisted in U. S. forces	1	0	1
Suspended	0	1	1
Reason not known	1	0	1
Died	4	2	6
Moved	9	13	22
Totals	108	93	201

The above table is a summary of the investigations made by the school in its attempt to urge all pupils to remain until graduation. The case of each pupil who left was investigated until a satisfactory report was available. Twenty different reasons are listed on the high school records as causes for pupils leaving school, but many of these reasons are related to other reasons so closely that it is difficult to state which one applies in a particular case. Often a combination of reasons is the real cause for elimination.

Summary

Of the group studied 54.8 per cent were eliminated as compared with 57 per cent in the study made by Van Denburg;[1] and O'Brien[2] found that of the group which he studied 68.5 per cent did not graduate from the high schools which they entered.

Elimination is greatest during the first four semesters.

The elementary schools in the better residential districts send a larger proportion of their pupils to high school than those schools in the poorer districts.

In general the schools sending the larger proportions of their graduates to high school have the lower percentages of elimination.

A closer organization between the elementary schools and the high school would no doubt lower the number of pupils eliminated.

The pupils of American fathers have a lower percentage of elimination from high school than pupils of foreign parentage.

Late entrance in high school prognosticates early elimination.

The greatest number of pupils leave high school on or near their sixteenth birthdays.

The three largest groups of parents classified by occupation were manufacturers and traders, artisans, and farmers.

Elimination ranked by occupation of parents was greatest in the transportation, unclassified, and artisan groups, while the

[1] Van Denburg, Joseph K., Causes of the Elimination of Students of Public Secondary Schools of New York City

[2] O'Brien, Francis P., The High School Failures

least elimination occurred in the group of semi-professional parents, professional, and federal and city employees.

Approximately one pupil in every five pupils is eliminated because of inability to do the high school work.

The greatest number of pupils dropped out of high school because of a desire to earn money immediately, failures in high school work, a general dislike for school, work to support the family, poor health, or because they were needed to help at home.

B. A Study of the Questionnaires

Questionnaires were sent to the 367 freshmen comprising the group studied with the exception of the 26 who died or moved. Form A, following, sent to the 175 eliminated pupils differed but slightly from Form B, pages 30, 31, and 32, sent to the 166 who had graduated or were still in school. One hundred replies were received from the eliminated group, and 108 from the other group. Fifty six boys (59 per cent) of the eliminated group returned questionnaires, while 44 girls (55 per cent) replied. The record of the graduated group was much better, for 43 boys (60 per cent) and 65 girls (68 per cent) replied. It is an interesting fact that three follow-up letters were sent to the eliminated group before the 100 replies were secured, while the graduate group sent 108 replies with no follow-up letters.

Form A

507 Chalmers Street,
Champaign, Illinois.
July 6, 1921.

Dear Friend:

In September, 1916, there were 367 pupils who entered Rockford High School as Freshmen. 166 of that number have graduated or are still in school. You are one of the pupils who did not stay to graduate.

I am making a study of the reasons why pupils drop out of high school. I am doing this for two reasons, first, because I am interested in you and in education in general, and second, because I am writing a thesis for credit in the Graduate School of the University of Illinois.

Below you will find a list of questions. Will you please answer these questions and return these sheets to me immediately?

By answering these questions you will be doing me a great favor and you may help some other boys and girls in the future, for it is from such studies as this one that we learn how to make our schools better.

I assure you that this information will be confidential. The results of nearly 200 such question sheets will be tabulated but your name will never be used in any public way whatsoever. I mention this because your answers will be worth most to me if you answer these questions absolutely honestly so far as you are able. If you cannot answer a question perfectly, then write the approximate answer. All I am interested in is getting all of these facts concerning your own case.

Sincerely yours,

F. J. Du Frain

Note: Answer every question pertaining to you. If you do not know the exact answer, write in as near the exact answer as you can.

Name.....

1. Why did you leave Rockford High School? Check the proper reason given below if it occurs; otherwise write in the reason.

. I left Rockford High School because:

(1) of failures in subjects
(2) of work to support family
(3) I had poor health
(4) of trouble with a teacher
(5) of general dislike for school
(6) I wished to earn money immediately
(7) my home life was unhappy
(8) I had been absent too much
(9) the high school subjects did not seem worth while
(10) high school courses were too long
(11) I wanted a short business course
.....
.....
.....

2. Have you attended any of the following schools since you left Rockford High School? If so, check the proper one.

St. Thomas High School — Military School
Keith School — College
Business College — Academy
Private School

If you have attended any of the above schools, state the following:

Name of school was..... Give the date when you entered..... Date of leaving..... ..... Did you graduate.....

3. If you have attended night school classes, state how long..... What subjects did you study in night school.....

4. If you have done any correspondence study, name the subjects.....

5. Are you married?.....

6. If you have plans for getting more education, please state them.....
.....

7. Was your father living when you left school?.....
your mother?.....

8. Did your father want you to stay in school?.....
your mother?.....

9. What is your present occupation?.....

10. How much did you earn from July 1, 1920 to July 1, 1921?
.....(If you were employed

only part of that time, how much did you earn per month?).....

11. How many older brothers have you?..... younger brothers?..... older sisters?..... younger sisters?.....

12. What subjects in high school did you like best?.....
.....
State why.....

13. What subjects did you like least?.....
.....
State why.....

14. What teacher did you like best?.....
State why.....

15. What teacher did you dislike?.....
State why.....

16. Did your parents own the home in which you were living when you entered high school in September, 1916?.....
If they did not please state approximately the amount of rent which you had to pay per month at that time...
.....

17. If you entered high school as a freshman again what course would you select?.....
Why?.....

Form B

Pontiac, Michigan,
October 29, 1921.

Dear Friend:

In writing my thesis for the Master of Arts Degree at the University of Illinois, I have discovered that I need some information which only you can give me. My subject is "Causes of Elimination of Pupils in R. H. S." My data is taken from the 367 pupils who entered in September, 1916.

I had thought that the information which I collected from the ones who did not graduate would be sufficient but I have found that I need your answers to these questions to serve as a means of comparison.

I assure you that this information will be confidential. The results of the answers from all of your classmates will be tabulated but, of course, your name will

never be used in a public way whatsoever. I mention this because your answers will be worth most to me if you reply to them without "fear or favor." If you cannot answer a question perfectly then write the approximate answer.

Your immediate reply will be appreciated by

Your friend,

F. J. Du Frain

Name.....

1. Have you attended any of the following schools since you left Rockford High School? If so, check the proper one.

   Business College — Military School
   Private School — College or University

   If you have attended any of the above schools, state the following:

   Name of school was..... Give the date when you entered..... Date of leaving..... Did you graduate?..... What course did you take?.. .....

2. If you have attended night school classes, state how long..... What subjects did you study in night school?.....

3. If you have done any correspondence study, name the subjects.....

4. Are you married?.....

5. If you have plans for getting more education, please state them.....

6. Was your father living when you graduated?..... Your mother?.....

7. What is your present occupation?.....

8. How much did you earn from July 1, 1920 to July 1, 1921? ..... (if you were employed only part of that time, how much did you earn per month?).....

9. How many older brothers have you?..... younger brothers? ..... older sisters?..... younger sisters?.....

10. What subjects in high school did you like best?..... ..... State why.....

11. What teacher did you like best?..... State why.....

12. What subjects did you like least?.....
..... State why.....

13. What teacher did you dislike?.....
State why.....

14. Did your parents own the home in which you were living when you entered high school in September, 1916?.....
If they did not please state the approximate amount of
16. rent which you had to pay per month at that time.....

15. If you entered high school as a freshman again what course would you select?.....
Why?.....

The following tables will give the data secured from the returned questionnaires. Wherever the same question was asked of both groups, the information appears in the same table. Hereafter in this discussion "A" will be used to designate the group of graduates and pupils still in school, while "B" will stand for the group of eliminated pupils.

Table XIV

Why did you leave Rockford High School?

	Group B		
	Boys	Girls	Total
Wished to earn money immediately	12	9	21
Work to support family	12	2	14
Poor health	4	10	14
General dislike for school	9	5	14
Failures in high school subjects	9	3	12
Wanted short business course	5	6	11
Absent too much	6	4	10
Trouble with teacher	5	2	7
High school subjects not worth while	6	1	7
Needed to help at home	1	6	7
Courses too long	3	2	5
Unhappy home	1	0	1
To get married	0	1	1
To enter technical schools	1	0	1
On account of the war	1	0	1
On account of stammering	0	1	1
Parents not interested in education	0	1	1
Wanted to learn a trade	1	0	1
Enlisted in U. S. forces	1	0	1
Totals	77	53	130

The above question was answered by 50 boys and 43 girls, but more than one reason was checked by some of them. The seven reasons receiving the highest number of votes are certainly important factors in the elimination of this group. A reason such as "general dislike for school" may result from a combination of other factors like poor health, trouble with a teacher, unhappy home, etc. but since those reasons did not receive as many votes, it is assumed that the dislike for school is the most important reason in itself. Poor health is given as a reason for leaving school by 10 girls but by only 4 boys. The frankness in admitting that failure in school subjects was the cause for the elimination of such a large percentage is noticeable. Some of the pupils of this group left during the world war and no doubt the unusual conditions of employment and sacrifices at home had some effect on their elimination.

Table XV

What schools have you attended since you left Rockford High School?

	Group A			Group B		
Schools	Boys	Girls	Total	Boys	Girls	Total
College or University	23	31	54			
Business college	0	2	2	9	9	18
Technical school or trade school	0	0	0	4	0	4
Private school	1	1	2	0	0	0
Other high schools	1	0	1	0	1	1
Military school	1	0	1	0	0	0
Night school	4	5	9	8	11	19
Correspondence school	6	3	9	6	0	6
Continuation school	0	0	0	4	0	4
Totals	36	42	78	31	21	52

It seems remarkable that of 100 eliminated pupils over half of them, 52, had done some further educational work after

leaving high school. It surely cannot be said that formal education stops with elimination or graduation from high school. The business colleges and night schools are serving an increasingly large group of young people who desire practical knowledge obtainable in the shortest possible time.

Table XVI

Are you married?

	Group A		Group B	
	Yes	No	Yes	No
Boys	0	43	4	52
Girls	0	65	11	32
Totals	0	108	15	84

There is no question but that early elimination forecasts early marriage.

Table XVII

If you have plans for getting more education, please state them.

	Group A			Group B		
	Boys	Girls	Total	Boys	Girls	Total
Already in college	23	31	54			
Plan for more education	13	11	24	20	12	32
No plan for more education	7	23	30	33	30	63
Totals	43	65	108	53	42	95

For a period of several years, 50 per cent of the graduates of Rockford High School have gone to college. Exactly one half of the graduates who replied to the questionnaires were in college. It is likewise significant that 95 pupils of the eliminated

group had plans for more education.

Table XVIII

Where or how do you expect to get this additional training?

	Group A			Group B		
	Boys	Girls	Total	Boys	Girls	Total
College or University	11	9	20			
International Correspondence School				3	0	3
Preparatory school				2	3	5
Nurses' training				0	3	3
Stenography				0	3	3
La Salle Extension University				2	0	2
Commercial illustrating				2	0	2
Bookkeeping				0	2	2
Drafting				2	0	2
Auto school	1	0	1	1	0	1
Commerce	1	1	2	1	0	1
Agriculture				1	0	1
Commercial Spanish				1	0	1
Night school				1	1	2
Cooperative school				1	0	1
Moody Institute				1	0	1
Pharmacy				1	0	1
Music	0	1	1			
Unclassified				1	0	1
Totals	13	11	24	20	12	32

No doubt the eliminated pupils have found a real need for more training as is shown by their plans for the future. No other group of citizens would show such a large percentage of their number planning to get more education training.

Table XIX

Was your father living when you left school or graduated? your mother?

		Group A			Group B		
		Boys	Girls	Total	Boys	Girls	Total
Father living	Yes	38	56	94	48	40	88
	No	5	9	14	7	2	9
Mother living	Yes	39	60	99	50	41	91
	No	4	5	9	5	1	6
Parents dead				23			15
Total parents living and dead				216			194

Fewer parents of the pupils in group B were dead than of group A; so with the former group the loss of one or both parents is not a serious factor in the elimination of a large number. However, the loss of 9 fathers and 6 mothers from 100 pupils eliminated is a fact to be considered when home conditions are analyzed.

Table XX

Did your father want you to stay in school? your mother?

		Group B		
		Boys	Girls	Total
Father	Yes	35	25	80
	No	12	13	25
Mother	Yes	46	30	76
	No	3	9	12
Total Parents	Yes			156
	No			37

While more parents wished their children to remain in school than wished them to leave, the total of 25 fathers and 12 mothers who did not desire their children to stay, has an effect on elimination not to be overlooked.

Table XXI

What is your present occupation?

Group A				Group B			
Boys		Girls		Boys		Girls	
Student	23	Student	28	Farmer	12	Housekeeper	14
Clerk	8	Stenographer	14	Clerk	9	Clerk	13
None	3	Teacher	7	Salesman	5	Stenographer	5
Concertizing	1	Clerk	5	Machinist	4	Bookkeeper	4
Ass't manager	1	Housekeeper	5	Apprentice to machinist	4	Garment maker	2
Apprentice to optician	1	None	3	Bookkeeper	3	Factory hand	2
Electrician	1	Typist	2	Mechanic	3		
Mechanic	1	Nurse	1	Draftsman	2		
Salesman	1			Motion picture operator	1		
Farmer	1			Stenographer	1		
Newspaper advertising	1			Sign painter	1		
Laborer	1			Pharmacist	1		
				Student	1		
				Chauffeur	1		
				Laborer	1		
				Sailor	1		
Totals	43		65		50		40

By far the greater number of graduates is engaged in professional or clerical occupations or in training for those occupations, while the prevailing occupations of the eliminated group are agriculture, housekeeping, clerical work, and mechanical work. Group A is doing a higher class of work than group B.

Table XXII

How much did you earn from July 1, 1920 to July 1, 1921? If you were employed only part of that time, how much did you earn per month?

	Group A			Group B		
Dollars per Month	Boys	Girls	Total	Boys	Girls	Total
41-50	1	4	5	2	2	4
51-60	1	2	3	5	8	13
61-70	1	7	8	1	7	8
71-80	4	3	7	6	6	12
81-90	4	3	7	6	2	8
91-100	4	3	7	6	2	8
101-110	1	3	4	3	0	3
111-120	1	0	1	1	0	1
121-130	2	0	2	9	2	11
131-140	2	0	2	3	0	3
141-150	0	0	0	0	0	0
151-160	0	0	0	1	0	1
161-170	1	0	1	3	0	3
Total reporting	22	25	47	46	29	75
Median salary for each group	90.50	68.58	82.42	95.	65.28	82.25

The median salary per month of those graduates who worked and those pupils who were eliminated is practically the same. The boys of the eliminated group earned a little more than the boys of the graduate group, while with the girls this was reversed. When one considers that approximately 50 per cent of the graduates were attending college, the wages of the graduates who stayed at home can hardly be considered representative of the earning ability of the group. It must also be borne in mind that since the eliminated pupils held positions longer this fact would further tend to give them an advantage over the graduates who had worked only a year.

Table XXIII

How many older brothers have you? younger brothers? older sisters? younger sisters?

Number of Children in Family	Group A			Group B		
	Pupils Answering			Pupils Answering		
	Boys	Girls	Total	Boys	Girls	Total
1	5	9	14	5	0	5
2	8	18	26	11	6	17
3	14	14	28	10	8	18
4	5	11	16	10	7	17
5	5	8	13	11	7	18
6	1	4	5	5	7	12
7	2	0	2	2	3	5
8	0	1	1	1	2	3
9	2	0	2	0	1	1
10	1	0	1	0	1	1
Totals	43	65	108	55	42	97
Median no. of children in family	3	3	3	4	4.5	4
Average no. of children in family	3.6	3.09	3.3	3.7	4.7	4.1
Sole child	5	9	14	5	0	5
Eldest child	9	26	35	16	10	26
Youngest child	13	15	28	14	12	26

Table XXIII reads: 5 boys and 9 girls in group A were the only children in their respective families, while 5 boys and 0 girls in group B had no brothers or sisters. Similarly there were 8 boys and 18 girls in group A who each had one sister or one brother, etc.

Van Denburg[1] found that early elimination is favored by having younger brothers or younger sisters. It would also appear to be true from this data, for 66 of the 97 eliminated had at least

[1] Van Denburg, Joseph K., Causes of the Elimination of Students of Public Secondary Schools of New York City.

one younger brother or sister. The size of the families of group B is larger than that of group A. While the girls of group B come from much larger families than the girls of group A, there is not much difference in this respect in the size of families of the boys.

Table XXIV

What subjects in high school did you like best?

Group A				Group B			
42 answers		64 answers		50 answers		38 answers	
Boys		Girls		Boys		Girls	
Science	18	English	27	Mech. Drawing	18	Commercial	14
Mathematics	16	History	27	Science	10	English	13
History	10	Mathematics	14	English	10	Science	9
Commercial	7	Commercial	9	Mathematics	8	Mathematics	6
English	5	French	8	History	8	F. H. Drawing	5
Shop work	3	Household arts	6	Shop work	7	History	4
F. H. Drawing	2	Science	6	Commercial	6	Household arts	2
Mech. Drawing	2	Music	4	Latin	1	Latin	1
French	2	Languages	3	Languages	1		
Spanish	1	F. H. Drawing	3				
Oratory	1	Pedagogy	3				
		Latin	3				
		Spanish	1				
Totals	67		114		68		54

Note: The subjects are ranked in order of preference with the number of votes after each one.

Evidently the practicability of mechanical drawing and commercial work appealed to the eliminated group. A comparison of the first three subjects in each of the four columns will show that only six subjects were voted on, i. e. science, mathematics, history, commercial subjects, English, and mechanical drawing.

The reasons given for the pupils' choices were so varied that a tabulation was not thought of any value.

Table XXV

What subjects in high school did you like least?

Group A				Group B			
41 answers		62 answers		49 answers		37 answers	
Boys		Girls		Boys		Girls	
English	12	Mathematics	27	Disliked none	5	Disliked none	1
Mathematics	11	English	16	English	19	English	11
Science	8	Latin	14	Mathematics	18	Mathematics	10
French	4	Science	13	Commercial	6	Commercial	10
History	3	History	11	History	3	Science	6
Mech. Drawing	2	Commercial	3	Mech. Drawing	2	History	6
Commercial	1	French	3	Science	2	F. H. Drawing	1
Shop work	1			Shop work	1	Latin	1
Latin	1			Languages	1	French	1
Mil. training	1						
Totals	44		87		57		47

Note: The subjects are ranked in order of dislike with the number of votes after each one.

The subjects which were liked best were also the ones that were disliked most by the pupils. If we compare the three highest in each of the four columns in the above table, we have the following five subjects: English, mathematics, science, Latin, and commercial subjects. With the exception of Latin all of these are found in the "liked-best" group also. In each of the four columns the vote for disliked subjects is lighter than the vote for the liked subjects in Table XXIV, indicating that the pupils' likes were stronger than their dislikes. There is no question but that the dislike for certain subjects influenced some pupils to leave, but this influence is not very great.

Table XXVI

What teachers did you like best?

30 boys in group A gave 10 men 25 votes and 14 women 14 votes
60 girls in group A gave 6 men 26 votes and 20 women 38 votes

42 boys in group B gave 7 men 10 votes and 15 women 23 votes
31 girls in group B gave 5 men 6 votes and 17 women 21 votes

Thirty-seven teachers were voted on as liked by from 1 to 5 pupils in group B. Twenty-five pupils in this group said they liked all of their teachers.

The pupils in group A expressed their likes and dislikes more freely than the pupils from the eliminated group. This was probably due to two things: first, they attended high school longer and evidently had their likes and dislikes more firmly embedded, and second, they knew the writer better and were more free to express themselves on such questions.

Table XXVII

What teachers did you dislike?

42 boys in group A gave 5 men 10 votes and 11 women 21 votes
65 girls in group A gave 6 men 10 votes and 22 women 43 votes

30 boys in group B gave 7 men 7 votes and 8 women 11 votes
21 girls in group B gave 4 men 6 votes and 7 women 15 votes

Forty pupils in group A and 23 pupils in group B disliked none of their teachers. The former group expressed a dislike for 25 different teachers and the latter for 17 different teachers.

The tone of the answers showed that in most cases the dislikes were not strong ones but rather the type of dislike a soldier might show towards some of his officers. In a few cases the

attack upon teachers was strong, but after comparing the replies as to likes and dislikes of both groups, the writer does not feel that the dislike for teachers has much effect upon elimination. Most of the replies showed a wholesome respect for the members of the faculty.

Table XXVIII

Did your parents own[1] the home in which you were living when you entered high school?

	Group A			Group B		
	Boys	Girls	Total	Boys	Girls	Total
Yes	32	51	83	36	26	62
No	11	14	25	20	15	35

[1]Owning was understood to include homes on which there was still some indebtedness.

While the owning of a home is a measure of the financial condition of a family, it evidently is not a determining element in elimination, for 77 per cent of group A and 64 per cent of group B owned their homes. The large percentage of home owners is perhaps largely due to the fact that approximately half of the population of Rockford is Swedish or of Swedish descent, and they are a thrifty class of people.

Table XXIX

If your parents did not own their home when you entered high school, please state approximately the amount of rent paid per month at that time.

	Group A			Group B		
Dollars	Boys	Girls	Total	Boys	Girls	Total
10-15		1	1	2	5	7
16-20		8	8	5	3	8
21-25	4	1	5	2		2
26-30				5	1	6
31-35	1		1	1		1
36-40	4	1	5	1	2	3
41-45	1		1		1	1
46-50	1	1	2			
Over 50				1		1
Totals	11	12	23	17	12	29
Medians	35.	18.44	22.	22.5	15.84	19.38

The rentals asked for were those for September, 1916, and at that time rents were much lower than at any time since. While the number of cases considered is small, the results show a slightly higher rental in group A, but in this study the difference is not enough to indicate a serious factor in elimination. Van Denburg, ten years earlier, found that the median rental for the eliminated pupils in New York City was about $15, and he says, "on the whole the economic status of these pupils seems to be only a slight factor in their continuance in school."[1] Other studies referred to by O'Brien[2] lead to the same conclusion.

[1]Van Denburg, Joseph K., Causes of the Elimination of Students of Public Secondary Schools of New York City, p. 113

[2]O'Brien, Francis P., The High School Failures, p. 35

Table XXX

If you entered high school as a freshman again what course would you select?

	Group A			Group B		
	Boys	Girls	Total	Boys	Girls	Total
Same course	30	35	83	36	18	54
Different course	13	12	25	11	15	26
Totals	43	65	108	47	33	80

Under the system used in Rockford High School at the time these freshmen entered, pupils choosing a special curriculum could not change until one semester of work was completed. In some cases this lack of adjustment may have aided elimination. However, there is not a large proportion in each group who were dissatisfied with the curriculums chosen, for only 23 per cent of the graduates and 32.5 per cent of the non-graduates would select different courses if they were entering high school again.

Table XXXI

Comparison of Reasons for Elimination
Taken from School Records, With Those
Given by the Pupils Themselves

	School Records						Questionnaires					
	Number			Per Cent			Number			Per Cent		
Reason	B	G	T	B	G	T	B	G	T	B	G	T
Wished to earn money immediately	29	17	46	27	18	23	12	9	21	16	17	16
Failures in H. S. subjects	19	11	30	18	12	15	9	3	12	12	6	9
Dislike for school	11	10	21	10	10	10	9	5	14	12	9	10
Work to support family	13	7	20	12	7	10	12	2	14	16	4	10
Poor health	3	10	13	3	10	6	4	10	14	5	19	10
Needed to help at home	4	7	11	4	7	5	1	6	7		11	5
Wanted a short business course	3	5	8	3	5	4	5	6	11	6	11	8
Parents not interested in education	2	3	5	2	3	2		1	1			
Absent too much	3	2	5	3	2	3	6	4	10	8	7	7
Illness at home	1	2	3									
Trouble with teacher							5	2	7	6	4	5
Course too long	1	2	3				3	2	5	4	4	4
Wanted to learn a trade	2	0	2				1	0	1			
H. S. subjects not worth while	1	0	1				6	1	7	8		5
To get married	0	1	1				0	1	1			
To enter technical school	1	0	1				1	0	1			
Suspended	0	1	1									
Stammered							0	1	1			
Reason not known	1	0	1									
Enlisted in U. S. forces	1	0	1				1	0	1			
On account of war							1	0	1			
Unhappy home life							1	0	1			
Died	4	2	6	4	2	3						
Moved	9	13	22	8	14	11						
Totals	108	93	201				77	53	130			

There is a total of 130 different reasons given under the questionnaires but this is due to the fact that many pupils indicated more than one reason for their elimination, for only 100 questionnaires were returned.

The above table shows that the correlation between the data taken from the school records and that from the questionnaires

is high. The desire to earn money immediately was the most important reason as manifested both by the school records and the answers to the questionnaires. The school records showed that failures in high school subjects was the second most important reason for elimination, attributing 15 per cent of the elimination to this cause, but only 9 per cent of the pupils gave this as a cause. The reason ranking third, i. e., dislike for school, may have been influenced by other causes such as dislike of subjects elected, dislike of teacher, failure of parents to encourage children to continue in school, etc. Only 10 per cent of the students left school to support the family. This may be compared with Barrows'[1] report that 80 per cent of the families of pupils leaving New York City schools for work were independent of the child's wages.

Summary

The answers to the questionnaires impress one with the serious attitude of life, not often accredited to pupils of high school age, which was shown, and it is a revelation to see among even the eliminated group how education "carries on."

Many letters were returned with the questionnaires to aid in making complete the answers given. Some of the pupils lamented the fact that they had dropped out of school; others wished that they had done better work but hoped that the on-coming pupils would be advised of the importance of doing their work well; and

[1] Barrows, Alice P., Report of Vocational Guidance Survey (New York City), Public Education Association, New York City, Bul. No. 9, 1912

one boy recommended that the author urge all students wishing to study engineering to take all of the high school mathematics that they could get. These letters showed clearly that many of the eliminated pupils realized too late the value of high school training and they also showed that many of the graduates were beginning to look back upon their work with a wider vision.

The public high school population as indicated by the questionnaires is much more cosmopolitan than that of private high schools as shown by Counts[1] in his study of the pupils of the University of Chicago High School and Phillips Exeter Academy, where he found that 42.7 per cent of the parents were proprietors, 31 per cent were in professional service, and 11.5 per cent in managerial service. The public high school pupils come from all classes of society and while many of the boys and girls are handicapped by poverty, lack of encouragement, and want of mental ability, success or failure in high school is not totally dependent on any of these factors. Such influences as loss of a parent, dislike for teachers or required subjects, selection of the wrong curriculum, etc. may be contributory causes but they do not seem to be important as direct causes of the elimination of such large groups as we find dropping out of the public high schools of today.

The greatest loss of pupils comes from the desire to earn money immediately. The problem facing us, therefore, is to convince the high school population of the importance of graduation from high school. The value of an education needs to be kept constantly before the eyes of the boys and girls before it is too late

[1]Counts, George S., The Population of the Private Secondary School, School and Society, Vol. 15, p. 571

for them to avail themselves of the opportunities given by our public secondary schools. On the other hand, it is the problem of the high school to offer curriculums which will meet the needs not only of the potential graduate but likewise of the potential non-graduate.

V Conclusions

1. More girls than boys entered high school, and a larger percentage of girls than boys graduated.
2. Slightly over one half (54.8 per cent) of the entering pupils were eliminated.
3. The elimination was greatest at the end of the second and fourth semesters.
4. The loss in pupils shown by cumulative percentages is very similar to that of O'Brien's study.
5. The morale, location, and general ideals of the elementary school constitute important factors in the length of time pupils remain in high school.
6. The pupils of American fathers show a lower percentage of elimination in this study than in Van Denburg's.[2] The Swedish people, who comprise about one half of Rockford's population, have the best record of any large foreign group so far as elimination is concerned.
7. The age at entrance for boys of the whole class, 14 years and 7 months, was on an average 3 months more than that for girls.

[1] O'Brien, Francis P., The High School Failures.

[2] Van Denburg, Joseph K., Causes of the Elimination of Students of Public Secondary Schools of New York City.

14 years and 4 months. As a group the median age of 14 years and 6 months compares favorably with that of other large school systems.

8. Since the average age of boys who were eliminated was 4 months more than for the group of boys, and since the average age for the girls eliminated was 5 months more than for the group of girls, age at entrance is a factor in determining elimination.

9. The compulsory school attendance law has an effect on elimination. Its enforcement undoubtedly was responsible for as high a median age at leaving of 16 years and 1 month. However, one third of the 201 pupils eliminated were in school after their sixteenth birthdays.

10. In general the pupils of parents whose occupation requires the most education stay in school the longest.

11. From a study of the mental abilities of eliminated pupils as shown by the results of intelligence tests, it was found that about twice as many in the lower quartile were eliminated as were eliminated in any other quartile.

12. From the office records the five most important reasons for leaving high school were: (1) to earn money immediately; (2) failures in high school subjects; (3) general dislike for school; (4) work to support family; and (5) poor health.

13. As indicated by the returned questionnaires, the five most important reasons for leaving school were: (1) to earn money immediately; (2) work to support family; (3) poor health; (4) general dislike for school; and (5) failures in high school subjects.

14. The longer a pupil stays in school, the greater is his desire

for more education. Over half of the replies from eliminated pupils shows that they sought more education in night, continuation, and correspondence schools, and business colleges.

15. Marriage is hastened by elimination from school but is not of much importance as a cause of elimination.
16. There is a genuine interest for more education among the individuals of the eliminated group.
17. So far as loss of parents is concerned, the eliminated group lost fewer parents than the graduate group; so loss of parents cannot be considered important in this study.
18. The indifference of one or both parents with regard to a child's graduation from high school is an important cause of elimination.
19. The pupils who were eliminated are now engaged in occupations less desirable than those of the graduates.
20. During the fifth year after entrance in high school, the eliminated group was earning about the same amount of money as the graduate group. However, since a great many of the graduates were in college, they could not be counted as wage earners yet.
21. The eliminated group came from larger families than the graduates. This is especially ture of the eliminated girls.
22. With regard to subjects studied, the likes and dislikes of the pupils were generally for the same subjects with the exception that the likes of the eliminated group were for the more practical ones. Both groups showed stronger likes than dislikes.
23. Dislike for teachers may be of slight influence in elimination but probably due to the fact that in a large high school, pupils have many teachers, the questionnaires indicate that most

pupils have no strong dislike for their teachers.

24. So far as owning a home is concerned, 77 per cent of the graduated group and 64 per cent of the eliminated group were thus favored. The difference shows, of course, that the graduated group had an advantage in home conditions, although but a slight one.

25. The graduated group paid slightly higher rentals than the eliminated group but the difference is not great.

26. Of the graduates 23 per cent would select different courses if they went through school again, and about 32 per cent of the eliminated group would choose differently. The fact that a pupil selected the wrong course would make the chances for his early elimination greater.

27. Death caused 6 per cent of the elimination.

28. Removal from the city caused 22 per cent of the elimination.

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